

REMARKS

Claims 1-30 are pending in the present application. In the Office Action mailed February 12, 2007, the Examiner rejected claims 1 and 4-14 under 35 U.S.C. §102(b) as being anticipated by Atalar et al. (USP 6,628,980). The Examiner next rejected claim 2 under 35 U.S.C. §103(a) as being unpatentable over Atalar et al. in view of Dumoulin (US Pub. 2003/0120146). Claim 3 is rejected under 35 U.S.C. §103(a) as being unpatentable over Atalar et al. in view of Dumoulin as applied to claim 2, and further in view of Foxall (USP 6,516,210). Claims 17 and 19-25 are rejected under 35 U.S.C. §103(a) as being unpatentable over Atalar et al. in view of Dumoulin. Claim 18 is rejected under 35 U.S.C. §103(a) as being unpatentable over Atalar et al. in view of Dumoulin as applied to claim 17, and further in view of Foxall. Claims 26-28 and 30 are rejected under 35 U.S.C. §103(a) as being unpatentable over Atalar et al. in view of Dumoulin. Claim 29 is rejected under 35 U.S.C. §103(a) as being unpatentable over Atalar et al. in view of Dumoulin as applied to claim 28, and further in view of Foxall.

The Examiner rejected claim 1 as being anticipated by Atalar. Applicant has amended claim 1 to incorporate the subject matter of claim 15. Claim 15 was not rejected by the Examiner under any statute nor was any art of record cited against claim 15. Applicant believes that amended claim 1 is patentably distinct from the art of record.

Applicant has amended claims 17 and 26 to overcome the rejections thereof. Claim 17 has been amended to incorporate the subject matter of claim 18 and call for, in part, the tracking coil configured to transmit signals indicating the location and movement of the RF coil assembly to the MRI system to facilitate MR data acquisition gating and the MRI system configured to gate MR data acquisition during imaging based on the location and movement of the RF coil assembly. Claim 26 has been amended to incorporate the subject matter of claim 29 and call for, in part, acquiring tracking data from the MR tracking coil representing position and movement of the imaging device during imaging and gating data acquisition during imaging based on the tracking data to reduce imaging artifacts.

The Examiner stated that “Foxall ‘210 teaches using MRI navigator echos [sic] during imaging of a patient with a motion detection means that process [sic] each navigator echo to gate images obtained from the MRI scanner (col. 3, lines 39-49).” Foxall teaches:

The MRI scanner is also operable to produce navigator echos [sic] during imaging of the patient with the MRI scanner. A motion detection means processes each of the navigator echos [sic] to obtain motion measurements representative of a state of motion of the patient during imaging, and a storage device maintains a historical record of the motion measurements. A gating

processor accesses the historical record and gates the images obtained from the MRI scanner.

Col. 3, lines 42-49. Foxall further teaches that:

The navigator data is preferably obtained as a 1D projection of some region of the body or patient anatomy that is moving in some manner, either from natural cyclical biological functions such as respiration or cardiac function, or otherwise, e.g., from voluntary (albeit perhaps unintentional) patient shifts or haphazard random movements. As is known in the art, using a series of processing steps including, e.g., Fourier transformation, summation, integration, edge detection, cross-correlation, least squares error determination, linear phase shifting, etc., a motion detection processor 110 derives a motion measure or motion data from the resulting navigator data. In this manner, the navigator data is acquired and processed to dynamically monitor the motion experienced during the imaging experiment.

Col. 6, lines 13-27. Thus, Foxall teaches a navigator echo to obtain movement data from some region of the body or patient anatomy. Data acquired via the navigator echo does not represent position, location, or movement of a tracking coil, which is in the immediate vicinity of the MRI imaging coils, and thus measures the motion of the imaging coil, but rather of the patient anatomy or region-of-interest.

Additionally, Foxall discloses gating based on access to a historical record of the stored motion data. Foxall discloses accessing the historical record to gate images obtained from the MRI scanner. Foxall does not teach or suggest gating data acquisition during imaging, based on data acquired from a tracking coil.

Accordingly, the art of record fails to teach or suggest that called for in claims 17 and 26. Applicant believes that claims 17 and 26, and the claims that depend therefrom, are not obvious in light of the art of record and are patentably distinct from the art of record.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-14, 16-17, 19-28, and 30.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

/Kent L. Baker/

Kent L. Baker
Registration No. 52,584
Phone 262-268-8100 ext. 12
klb@zpspatents.com

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P.O. ADDRESS:

Ziolkowski Patent Solutions Group, SC
136 South Wisconsin Street
Port Washington, WI 53074
262-268-8100

General Authorization and Extension of Time

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 07-0845. Should no proper payment be enclosed herewith, as by credit card authorization being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 07-0845. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extensions under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 07-0845. Please consider this a general authorization to charge any fee that is due in this case, if not otherwise timely paid, to Deposit Account No. 07-0845.

/Timothy J. Ziolkowski/

Timothy J. Ziolkowski
Registration No. 38,368
Direct Dial 262-268-8181
tjz@zpspatents.com

Dated: May 14, 2007
Attorney Docket No.: GEMS8081.204

P.O. ADDRESS:

Ziolkowski Patent Solutions Group, SC
136 South Wisconsin Street
Port Washington, WI 53074
262-268-8100